Vienna Instruments
Solo Download Instruments
Trombone ensemble
Full Library

Contents

Introduction

Welcome to the Vienna Symphonic Library, and thank you for purchasing one of our Solo Download Instruments! This document contains the mapping information for the "Full" version of the Vienna Instruments Trombone ensemble. You will find in it a comprehensive survey of the articulations/Patches content, a listing of abbreviations, and the mapping list proper which gives details for every Patch, Matrix, and Preset.

"Full" Library

As opposed to the "Standard" versions of our Solo Download Instruments, the "Full" versions are identical with the corresponding instruments of a DVD Collection, i.e., they contain exactly the same samples, Patches, Matrices and Presets as the latter without any restrictions.

Installing a Download Instrument's Full version copies that instrument's sample content to a separate folder on your hard disk, so that it is not necessary to keep its Standard version installed – you may either delete it from your hard disk or at least remove it from the Directory Manager's list of activated instruments. In the Vienna Instruments Browser, the path of the Full version will be the same as that of the corresponding DVD Instrument, so that you can still see both versions as separate entries if you keep the Standard version installed.

Data paths and Patch name conventions

Since the Full versions of Download Instruments conform to the corresponding DVD Instruments, the data paths in your Vienna Instruments browser will be different than those of Standard Download or Special Edition Instruments. For instance, the path of the Standard Download Library of Flute 1 is "02D Flute-1", and all Patches can be found in this folder regardless of the articulation group they belong to. The Patch number is also marked with a "D" so that you immediately know it is a Download Instrument. In the Vienna Special Edition, Flute 1 is located in the folder "11 Flutes" together with the other flutes. Here, the Patch number is marked with an "S". The Full Download of Flute 1 is located in the subfolder "32 Flute" of the section "Woodwind Patches", which again contains subfolders grouping the Patches according to type, e.g., "01 SHORT + LONG NOTES", "02 DYNAMICS", etc. Patch names of the Full Download Library may differ from the corresponding ones of the Standard Download Library.

While Full Download Instruments contain all articulations of the corresponding DVD Instruments, their Patches are not divided into Standard and Extended content. The list of articulations further down which gives a summary of the Library's contents.

Special Patch configurations which sometimes are part of a Standard Download Instrument may be found in a reserved folder called "98 RESOURCES" in the Full Instrument. E.g., Flute 1 Standard contains the Patch "22D FL1 legato-sus"; in Flute 1 Full, this Patch is called "01 FL1_perf_leg_sustain" and is located in the Resources' subfolder "03 Perf Speed variation". (Apart from that, it also contains more samples.) Other articulations that can be found in the Resources folder are isolated dynamics repetitions in the subfolder "01 Perf Rep dyn" – e.g., the five repetitions of a legato crescendo, divided into separate Patches – and extracted velocity layers of sustained notes in the subfolder "02 Long Notes – Single Layer".

Patch information

The Patch information includes articulation type, playing range, number of samples used, RAM requirements, the number of velocity layers and alternations, AB switching possibilities, etc., as well as Patch specific information if necessary.

Where the type of articulation requires a special mapping (e.g., natural harmonics patches), the mapping layout will be shown in a detailed graphic.

Major and minor runs are always mapped to the keys of their scale, as are **arpeggios** to the keys of the broken chord played. **Grace notes** and **mordents** are mapped to their target note, i.e., the note the articulation ends with. Due to their nature, all **upward and downward articulations** (e.g., fixed glissandos and octave runs) have different mapping ranges – the upward movements ending the involved interval below the Patch's upper mapping range, while downward movements end the interval above its lower mapping range. (Please note that not all of the articulations mentioned above may be contained in your Collection.)

The Patch information also lists a Patch's velocity layers in detail. Velocity layer switches generally are the same for patches with the same number of layers but may occasionally be adapted to the instrument's requirements:

Layers	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6
2	1–88	89–127				
3	1–55	56–88	89–127			
4	1–55	56–88	89–108	109-127		
5	1–24	25–55	56–88	89–108	109–127	
6	1–24	25–55	56–88	89–108	109–118	119–127

Interval performances

Interval performances are one of the outstanding features of our Vienna Instruments. They allow you to play authentic legato without any programming tricks. In our Silent Stage, all intervals from minor second to the octave were recorded for every instrument – up and down, of course; that makes 24 interval samples per note for one velocity alone! When you load an interval performance Patch and play a line on your keyboard, the software automatically joins the right samples with their interval transitions again, and you hear a perfect legato. By the way, this technique is not only used for legato but also for other articulations like the strings' portamento, marcato, or détaché and spiccato articulations.

Interval performances also contain at least two legato repetitions for every note which alternate automatically whenever you strike a key more than once. There also are preconfigured thresholds for legato and repetition notes: The legato threshold – i.e., the maximum break between notes where legato is played – is 50 ms. Otherwise, a sustained starting note will sound so that you can easily start a new phrase without leaving the legato Patch. For note repetitions, the threshold is 200 ms: a break up to that duration will yield a legato repetition; if the break is longer, a new starting note. But of course, it's mingling legato with other articulations which makes a piece really come alive.

Due to their nature, all interval performances are monophonic; otherwise, the software would have to be able to decide which source note belongs to which target note. To circumvent this, you can open two VI instances of the same instrument on separate MIDI tracks without any additional strain on your RAM.

Note: the Vienna Instruments PRO player software also allows you to play polyphonic Interval performances.

Another variety of interval performance you will come across is the "perf-leg_sus" Patch. These Patches also contain normal legatos, only the target note of each interval is crossfaded into a looped sustain. They can be used for slower pieces with long notes; however, you should use them with circumspection, since plain legatos sound more lively because they not only render the interval transitions as they were played, but also have different target samples for every interval instead of the same sustained note: When you play, e.g., c–e and then c#–e with normal legato, you will get two different "e" tones; with sus-legato you won't.

Matrix information

Each Matrix listing contains information regarding the Patches used for the Matrix, the number of horizontal and vertical dimensions, and switching properties. A mapping table shows the Cell positions for each of the Matrix' Patches.

A/B switching normally is set to A0 for upward/crescendo, and B0 for downward/diminuendo. However, some bass instruments go below that range so that the A/B keys have to be adapted accordingly. For example, the A/B switches for double bass are A0 and A#0 because the instrument's lower range extends to B0.

In order to facilitate working with **MIDI controller switches** like the Modulation wheel, the switching positions are not distributed equally across the controller range if they control more than two Matrix rows or columns; generally, the switching range will be narrower at the extreme positions because they are easy to set, and wider in the middle where it is harder to find the desired setting.

Speed controller switches naturally are adjusted to the Patches involved, and have been tested carefully as to their playability. However, if you find that they do not fit your playing, or want to try out other settings, you can change this as well as any other controller's settings at the **Control edit** page, and save the result in your Custom Matrix folder.

Preset information

The Preset information lists the Matrices used in the Preset as well as its keyswitches. All other information can be gathered from the Matrix and Patch listings, so there's not really much to say here. Please note that the Matrices of a Preset can also be switched with MIDI Program Changes (VI: 101–112; VI PRO: 1–127) instead of keyboard notes, and if you like to keep your keyboard free for playing instead of switching, you can disable Preset keyswitching and only use MIDI Program Changes. Vienna Instruments PRO also allows you to define a MIDI Control for Preset keyswitching.

Abbreviations

Here's a list of abbreviations in Patch names, which will help you to determine a Patch's content even without the help of the Vienna Instruments browser. Please note that not all of the abbreviations may occur in the manual on hand.

Abbreviation	Meaning	Abbreviation	Meaning
+	faster articulation (runs and arpeggios)	lo	long
		ma	major
150, 160, …	150, 160, … BPM (beats per minute)	marc	marcato
1s, 2s, …	tone length 1 sec., 2 sec., …	me	medium
acc	accelerando	mi	minor
all	combination of all Patches of a category	mord	mordent
		mu	muted
arp	arpeggio	muA, muB	muted, variation A/B
blare	"blared" tones (horn)	nA	normal attack
cre	crescendo	noVib	without vibrato
dim	diminuendo	perf-rep	repetition performance
dm	diminished (arpeggios)	por	portato
dyn	dynamics (crescendo and diminuendo)	run	octave run
		sA	soft attack
dyn5, dyn9	dynamics, 5/9 repetitions	sl	slow
fa	fast	sta, stac	staccato
faT	fast triplets	sto	stopped (horns)
fA	fast attack	str	strong
fA_auto	attack automation (normal/fast attack)	sus	sustained
		T	triplets
fast-rep	fast repetitions	tune	"tuning in" articulation
flatter	flutter tonguing	UB	upbeat
fx	effect sound	UB-a1, -a2	1, 2 upbeats
gliss	glissando	v1, v2 …	1st, 2nd, … variation
hA	hard attack	Vib	with (medium) vibrato
leg	legato	Vib-progr	progressive vibrato
li	light	XF	cell crossfade Matrix

Articulations

66 Trombones - a3	
01 SHORT + LONG NOTES	Staccato short and medium Portato short, medium and long Sustained, normal and marcato
02 DYNAMICS	Medium crescendo and diminuendo, 1.5, 2, 3, 4, and 6 sec. Strong crescendo and diminuendo, 2, 3, 4, and 6 sec. pfp, 4, 6, 8 and 10 sec. Fortepiano, sforzato, sforzatissimo
03 FLATTER	Flutter tonguing normal and crescendo
04 CLUSTER	Staccato and sustained Dynamics, 1.5 and 4 sec., sforzato Repetition performances, legato, normal and dynamics
10 PERF INTERVAL	Legato, normal and with sustain crossfading Marcato
11 PERF INTERVAL FAST	Legato Marcato
12 PERF TRILL	Trills, legato, minor to major 2nd
13 PERF REPETITION	Legato, portato, staccato Slow and fast Dynamics for all repetitions
14 PERF UPBEAT REPETITION	1 and 2 upbeats, slow, medium, and fast Normal and dynamics
15 FAST REPETITION	Staccato, 9 repetitions, 140 to 180 BPM Normal and dynamics
16 UPBEAT REPETITION	1 upbeat, 80–140 BPM 2–3 upbeats, 80–140, 160, and 180 BPM
17 ARPEGGIOS	Arpeggios, staccato Diminished, major and minor from C to B key Up and down, 2 speeds for all
18 GLISSANDI	Performance glissandos, minor 2nd to diminished 5th Fixed glissandos, minor 2nd to diminished 5th, up and down

The orchestra

There are several ways of setting up an orchestra, depending on the era of the piece played, the type of the piece and the instruments it requires, and even on the preference of the conductor. The figure below shows one of the more common setups, which can be taken as a guideline for mixing a composition, properly positioning the instruments in the stereo field and adding reverb according to the size of the concert hall you want your piece to be played in.
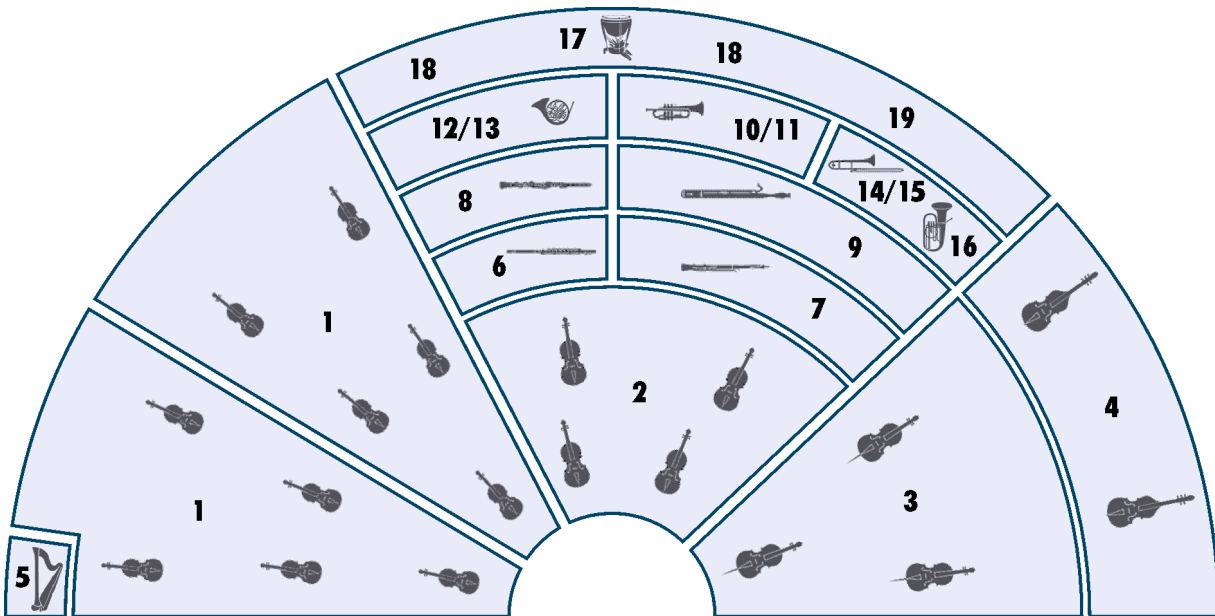
1	1st and 2nd violin	
2	Viola	
3	Cello	
4	Double bass	
5	Harp	
6	Concert flute, piccolo	
7	Oboe, English horn	
8	Clarinet, bass clarinet	

9	Bassoon, contrabassoon
10/11	Trumpet
12/13	Horn
14/15	Trombone
16	Tuba
17	Timpani
18	Drums, cymbals
19	other percussion instruments

Pitch

For designating pitch, the Vienna Symphonic Library uses International Pitch Notation (IPN), which was agreed upon internationally under the auspices of the Acoustical Society of America. In this system the international standard of A=440 Hz is called A4 and middle C is C4. All pitches are written as capital letters, their respective octave being indicated by a number next to it. The lowest C on the piano is C1 (the A below that is A0), etc.

You can tune your Vienna Instruments to other players, or adjust it to tunings of earlier musical periods by setting the Perform page's Master Tune option within a range of 420 to 460 Hz.

66 Trombones - a3

The instrument

Description

The tenor trombone in Bb is, like the trumpet, played with a cup-shaped mouthpiece. The trombone is the oldest brass wind instrument with a chromatic scale – thanks to its slide, which distinguishes it from all other brass instruments.

The trombone section in the modern orchestra uses four trombones, usually two tenor and two tenor-bass trombones.

Range and notation

The tenor trombone has a range from E2–F5.

Notation in the tenor (higher register) and bass clefs (lower register), no transposition.

Sound characteristics

Brassy, brilliant, powerful, overpowering, solid, tense, penetrating, dramatic, hard, full, sinister, soft, round.

The low notes sound threatening when played *forte*, mysterious and full when played *piano*. They are used for weighty and portentous themes and as bass in harmony sequences.

The middle register sounds metallic, mighty, sometimes blaring and heroic when played *forte*.

In the upper register the sound becomes more brilliant and can reach sweeping intensity. The mellowness increases.

Combination with other instruments

Good tonal blend with the other brass instruments.

The combination of deep woodwinds with the trombone principally serves the reinforcement of sound.

The combination with strings does not generally produce homogeneity. The trombone supports and fleshes out the deep strings.

Patches

01 SHORT + LONG NOTES	**Range: C2–A#4**	

01 TB-3_staccato_short	**Samples: 224**	**RAM: 14 MB**

Staccato, short
4 velocity layers
4 Alternations

02 TB-3_staccato_medium	**Samples: 224**	**RAM: 14 MB**

Staccato, medium
4 velocity layers
4 Alternations

03 TB-3_portato_short	**Samples: 224**	**RAM: 14 MB**

Portato, short
4 velocity layers
4 Alternations

04 TB-3_portato_medium	**Samples: 224**	**RAM: 14 MB**

Portato, medium
4 velocity layers
4 Alternations

05 TB-3_portato_long	**Samples: 224**	**RAM: 14 MB**

Portato, long
4 velocity layers
Release samples
2 Alternations

11 TB-3_sus	**Samples: 224**	**RAM: 14 MB**

Sustained
4 velocity layers
Release samples

12 TB-3_sus_marcato	**Samples: 112**	**RAM: 7 MB**

Sustained, marcato
2 velocity layers
Release samples

02 DYNAMICS   Range: C2–A#4

01 TB-3_dyn-me_1'5s   Samples: 112   RAM: 7 MB

Medium crescendo and diminuendo, 1.5 sec.
2 velocity layers
AB switch: crescendo/diminuendo

02 TB-3_dyn-me_2s   Samples: 112   RAM: 7 MB

Medium crescendo and diminuendo, 2 sec.
2 velocity layers
AB switch: crescendo/diminuendo

03 TB-3_dyn-me_3s   Samples: 112   RAM: 7 MB

Medium crescendo and diminuendo, 3 sec.
2 velocity layers
AB switch: crescendo/diminuendo

04 TB-3_dyn-me_4s   Samples: 112   RAM: 7 MB

Medium crescendo and diminuendo, 4 sec.
2 velocity layers
AB switch: crescendo/diminuendo

05 TB-3_dyn-me_6s   Samples: 112   RAM: 7 MB

Medium crescendo and diminuendo, 6 sec.
2 velocity layers
AB switch: crescendo/diminuendo

11 TB-3_dyn-str_2s   Samples: 56   RAM: 3 MB

Strong crescendo and diminuendo, 2 sec.
1 velocity layer
AB switch: crescendo/diminuendo

12 TB-3_dyn-str_3s   Samples: 56   RAM: 3 MB

Strong crescendo and diminuendo, 3 sec.
1 velocity layer
AB switch: crescendo/diminuendo

13 TB-3_dyn-str_4s   Samples: 56   RAM: 3 MB

Strong crescendo and diminuendo, 4 sec.
1 velocity layer
AB switch: crescendo/diminuendo

14 TB-3_dyn-str_6s   Samples: 56   RAM: 3 MB

Strong crescendo and diminuendo, 6 sec.
1 velocity layer
AB switch: crescendo/diminuendo

21 TB-3_pfp_4s   Samples: 14   RAM: 1 MB

Crescendo-diminuendo, 4 sec.
1 velocity layer

22 TB-3_pfp_6s	**Samples: 14**	**RAM: 1 MB**

Crescendo-diminuendo, 6 sec.
1 velocity layer

23 TB-3_pfp_8s	**Samples: 14**	**RAM: 1 MB**

Crescendo-diminuendo, 8 sec.
1 velocity layer

24 TB-3_pfp_10s	**Samples: 14**	**RAM: 1 MB**

Crescendo-diminuendo, 10 sec.
1 velocity layer

31 TB-3_fp	**Samples: 28**	**RAM: 1 MB**

Fortepiano
1 velocity layer
2 Alternations

32 TB-3_sfz	**Samples: 28**	**RAM: 1 MB**

Sforzato
1 velocity layer
2 Alternations

33 TB-3_sffz	**Samples: 28**	**RAM: 1 MB**

Sforzatissimo
1 velocity layer
2 Alternations

03 FLATTER	**Range: C2–A#4**	

01 TB-3_flatter	**Samples: 56**	**RAM: 3 MB**

Flutter tonguing
1 velocity layer
Release samples

02 TB-3_flatter_cre	**Samples: 28**	**RAM: 1 MB**

Flutter tonguing, crescendo
1 velocity layer

04 CLUSTER Range: C2–A#4

01 TB-3_clu_staccato Samples: 56 RAM: 3 MB
Clusters, staccato
2 velocity layers
2 Alternations

02 TB-3_clu_sus Samples: 28 RAM: 1 MB
Clusters, sustained
1 velocity layer
Release samples

03 TB-3_clu_dyn_1'5s Samples: 28 RAM: 1 MB
Clusters, crescendo and diminuendo, 1.5 sec.
1 velocity layer
AB switch: crescendo/diminuendo

04 TB-3_clu_dyn_4s Samples: 28 RAM: 1 MB
Clusters, crescendo and diminuendo, 4 sec.
1 velocity layer
AB switch: crescendo/diminuendo

05 TB-3_clu_sfz Samples: 14 RAM: 1 MB
Clusters, sforzato
1 velocity layer

06 TB-3_clu_perf-rep_leg Samples: 140 RAM: 8 MB
Clusters, legato
2 velocity layers

07 TB-3_clu_perf-rep_dyn5_leg Samples: 140 RAM: 8 MB
Clusters, legato dynamics, 5 repetitions
1 velocity layer
AB switch: crescendo/diminuendo

10 PERF INTERVAL Range: C2–A#4

01 TB-3_perf-legato Samples: 616 RAM: 38 MB
Legato
2 velocity layers
Release samples

02 TB-3_perf-legato_sus Samples: 728 RAM: 45 MB
Legato
Sustain crossfading
4 velocity layers
Release samples

03 TB-3_perf-marcato   Range: C2–G#4   Samples: 669   RAM: 41 MB

Marcato
2 velocity layers
Release samples

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11 PERF INTERVAL FAST

01 TB-3_perf-legato_fa   Range: C2–A#4   Samples: 722   RAM: 45 MB

Legato, fast
2 velocity layers
Release samples

02 TB-3_perf-marcato_fa   Range: C2–G#4   Samples: 777   RAM: 48 MB

Marcato, fast
2 velocity layers
Release samples

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12 PERF TRILL   Range: C2–A#4

01 TB-3_perf-trill   Samples: 1232   RAM: 77 MB

Performance trills, legato, minor to major 2nd
2 velocity layers
Release samples

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13 PERF REPETITION   Range: C2–A#4

01 TB-3_perf-rep_leg-sl   Samples: 150   RAM: 9 MB

Legato, slow
2 velocity layers

02 TB-3_perf-rep_leg-fa   Samples: 150   RAM: 9 MB

Legato, fast
2 velocity layers

03 TB-3_perf-rep_por-sl   Samples: 270   RAM: 16 MB

Portato, slow
2 velocity layers

04 TB-3_perf-rep_por-fa   Samples: 270   RAM: 16 MB

Portato, fast
2 velocity layers

| **05 TB-3_perf-rep_sta-sl** | **Samples: 270** | **RAM: 16 MB** |

Staccato, slow
2 velocity layers

| **06 TB-3_perf-rep_sta-fa** | **Samples: 270** | **RAM: 16 MB** |

Staccato, fast
2 velocity layers

| **21 TB-3_perf-rep_dyn5_leg-sl** | **Samples: 150** | **RAM: 9 MB** |

Legato dynamics, slow, 5 repetitions
1 velocity layer
AB switch: crescendo/diminuendo

| **22 TB-3_perf-rep_dyn5_leg-fa** | **Samples: 150** | **RAM: 9 MB** |

Legato dynamics, fast, 5 repetitions
1 velocity layer
AB switch: crescendo/diminuendo

| **23 TB-3_perf-rep_dyn9_por-sl** | **Samples: 270** | **RAM: 16 MB** |

Portato dynamics, slow, 9 repetitions
1 velocity layer
AB switch: crescendo/diminuendo

| **24 TB-3_perf-rep_dyn9_por-fa** | **Samples: 270** | **RAM: 16 MB** |

Portato dynamics, fast, 9 repetitions
1 velocity layer
AB switch: crescendo/diminuendo

| **25 TB-3_perf-rep_dyn9_sta-sl** | **Samples: 270** | **RAM: 16 MB** |

Staccato dynamics, slow, 9 repetitions
1 velocity layer
AB switch: crescendo/diminuendo

| **26 TB-3_perf-rep_dyn9_sta-fa** | **Samples: 270** | **RAM: 16 MB** |

Staccato dynamics, fast, 9 repetitions
1 velocity layer
AB switch: crescendo/diminuendo

| **14 PERF UPBEAT REPETITION** | **Range: C2–A#4** |

| **01 TB-3_perf-rep_UB-a1_sl** | **Samples: 120** | **RAM: 7 MB** |

1 upbeat, slow
2 velocity layers

| **02 TB-3_perf-rep_UB-a2_sl** | **Samples: 120** | **RAM: 7 MB** |

2 upbeats, slow
2 velocity layers

03 TB-3_perf-rep_UB-a1_me	**Samples: 120**	**RAM: 7 MB**

1 upbeat, medium
2 velocity layers

04 TB-3_perf-rep_UB-a2_me	**Samples: 120**	**RAM: 7 MB**

2 upbeats, medium
2 velocity layers

05 TB-3_perf-rep_UB-a1_fa	**Samples: 120**	**RAM: 7 MB**

1 upbeat, fast
2 velocity layers

06 TB-3_perf-rep_UB-a2_fa	**Samples: 120**	**RAM: 7 MB**

2 upbeats, fast
2 velocity layers

11 TB-3_perf-rep_dyn4_UB-a1_sl	**Samples: 120**	**RAM: 7 MB**

1 upbeat, slow, dynamics
4 repetitions
1 velocity layer
AB switch crescendo/diminuendo

12 TB-3_perf-rep_dyn4_UB-a2_sl	**Samples: 120**	**RAM: 7 MB**

2 upbeats, slow, dynamics
4 repetitions
1 velocity layer
AB switch crescendo/diminuendo

13 TB-3_perf-rep_dyn4_UB-a1_me	**Samples: 120**	**RAM: 7 MB**

1 upbeat, medium, dynamics
4 repetitions
1 velocity layer
AB switch crescendo/diminuendo

14 TB-3_perf-rep_dyn4_UB-a2_me	**Samples: 120**	**RAM: 7 MB**

2 upbeats, medium, dynamics
4 repetitions
1 velocity layer
AB switch crescendo/diminuendo

15 TB-3_perf-rep_dyn4_UB-a1_fa	**Samples: 120**	**RAM: 7 MB**

1 upbeat, fast, dynamics
4 repetitions
1 velocity layer
AB switch crescendo/diminuendo

16 TB-3_perf-rep_dyn4_UB-a2_fa	**Samples: 120**	**RAM: 7 MB**

2 upbeats, fast, dynamics
4 repetitions
1 velocity layer
AB switch crescendo/diminuendo

15 FAST REPETITION Range: D2–A4
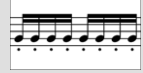
01 TB-3_fast-rep_140 (150/160/170/180)	**Samples: 112**	**RAM: 7 MB**

Fast repetitions: 140–180 BPM
2 velocity layers
Release samples

11 TB-3_fast-rep_140_dyn (150/160/170/180)	**Samples: 56**	**RAM: 3 MB**

Fast repetitions
Dynamics, 140–180 BPM
1 velocity layer
AB switch: crescendo/diminuendo

16 UPBEAT REPETITION

A Single Upbeat Range: D2–A4

01 TB-3_UB-a1_80 (90/100/110/120/130/140)	**Samples: 84**	**RAM: 5 MB**

1 upbeat, 80–140 BPM
3 velocity layers

B Double Upbeats Range: D2–A4

01 TB-3_UB-a2_80 (90/100/110/120/130/140/160/180)	**Samples: 84**	**RAM: 5 MB**

2 upbeats, 80–140, 160, and 180 BPM
3 velocity layers

C Triple Upbeats Range: D2–A4

01 TB-3_UB-a3_80 (90/100/110/120/130/140/160/180)	**Samples: 84**	**RAM: 5 MB**

3 upbeats, 80–140, 160, and 180 BPM
3 velocity layers

17 ARPEGGIOS

Please note that the playing ranges vary with the key of the Patch used.
For playing ranges and mappings for each key, please see the appendix.
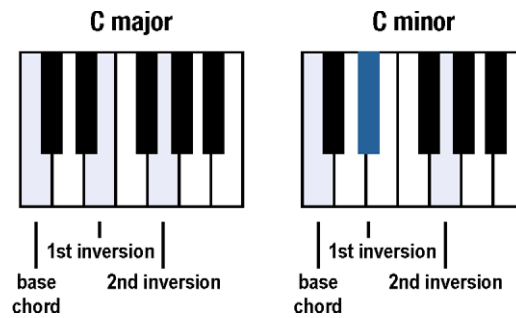
Staccato diminished

01 TB-3_arp-sta_dm   **Range: D2–A4**   **Samples: 52**   **RAM: 3 MB**

Arpeggios, staccato
Diminished
2 velocity layers
AB switch: up/down

Staccato diminished fast

01 TB-3_arp-sta+_dm   **Range: D2–A4**   **Samples: 52**   **RAM: 3 MB**

Arpeggios, staccato, fast
Diminished
2 velocity layers
AB switch: up/down

Staccato major

01 TB-3_arp-sta_C-ma (through to B-ma)   **Samples: 20**   **RAM: 1 MB**

Arpeggios, staccato
C to B major
2 velocity layers
AB switch: up/down

Staccato major fast

01 TB-3_arp-sta+_C-ma (through to B-ma)   **Samples: 20**   **RAM: 1 MB**

Arpeggios, staccato, fast
C to B major
2 velocity layers
AB switch: up/down

Staccato minor

01 TB-3_arp-sta_C-mi (through to B-mi)   Samples: 20   RAM: 1 MB

Arpeggios, staccato
C to B minor
2 velocity layers
AB switch: up/down

Staccato minor fast

01 TB-3_arp-sta_C-mi+ (through to B-mi)   Samples: 20   RAM: 1 MB

Arpeggios, staccato, fast
C to B minor
2 velocity layers
AB switch: up/down

18 GLISSANDI   Range: C2–A#4

Please note that fixed glissandos have different up and down ranges.

01 TB-3_perf-gliss   Samples: 782   RAM: 48 MB

Glissando, minor 2nd to diminished 5th
2 velocity layers
Release samples

11 TB-3_gliss-1   Samples: 108   RAM: 6 MB

Glissando, minor 2nd
2 velocity layers
AB switch: up/down

12 TB-3_gliss-2   Samples: 104   RAM: 6 MB

Glissando, major 2nd
2 velocity layers
AB switch: up/down

13 TB-3_gliss-3   Samples: 92   RAM: 5 MB

Glissando, minor 3rd
2 velocity layers
AB switch: up/down

14 TB-3_gliss-4   Samples: 80   RAM: 5 MB

Glissando, major 3rd
2 velocity layers
AB switch: up/down

15 TB-3_gliss-5	**Samples: 52**	**RAM: 3 MB**

Glissando, 4th
2 velocity layers
AB switch: up/down

16 TB-3_gliss-6	**Samples: 18**	**RAM: 1 MB**

Glissando, diminished 5th
2 velocity layers
AB switch: up/down

98 RESOURCES

Slow legato Interval Performance
Isolated dynamics repetitions: Legato slow and fast, portato, staccato
Single layer long notes

01 Perf Rep dyn	**Range: C2–A#4**

01 TB-3_rep_cre5_leg-sl-1 (2/3/4/5)	**Samples: 15**	**RAM: 1 MB**

Extracted repetitions
Legato, slow, crescendo, 1st to 5th note
1 velocity layer

01 TB-3_rep_dim5_leg-sl-1 (2/3/4/5)	**Samples: 15**	**RAM: 1 MB**

Extracted repetitions
Legato, slow, diminuendo, 1st to 5th note
1 velocity layer

02 TB-3_rep_cre5_leg-fa-1 (2/3/4/5)	**Samples: 15**	**RAM: 1 MB**

Extracted repetitions
Legato, fast, crescendo, 1st to 5th note
1 velocity layer

02 TB-3_rep_dim5_leg-fa-1 (2/3/4/5)	**Samples: 15**	**RAM: 1 MB**

Extracted repetitions
Legato, fast, diminuendo, 1st to 5th note
1 velocity layer

03 TB-3_rep_cre9_por-1 (2/3/4/5/6/7/8/9)	**Samples: 15**	**RAM: 1 MB**

Extracted repetitions: Portato, crescendo, 1st to 9th note
1 velocity layer

03 TB-3_rep_dim9_por-1 (2/3/4/5/6/7/8/9)	**Samples: 15**	**RAM: 1 MB**

Extracted repetitions: Portato, diminuendo, 1st to 9th note
1 velocity layer

04 TB-3_rep_cre9_sta-1 (2/3/4/5/6/7/8/9)	**Samples: 15**	**RAM: 1 MB**

Extracted repetitions: Staccato, crescendo, 1st to 9th note
1 velocity layer

04 TB-3_rep_dim9_sta-1 (2/3/4/5/6/7/8/9)	**Samples: 15**	**RAM: 1 MB**

Extracted repetitions: Staccato, diminuendo, 1st to 9th note
1 velocity layer

02 Long Notes - Single Layer	**Range: C2–A#4**	

01 TB-3_sus-p	**Samples: 56**	**RAM: 3 MB**

Sustained, piano
1 velocity layer
Release samples

02 TB-3_sus-mf	**Samples: 56**	**RAM: 3 MB**

Sustained, mezzoforte
1 velocity layer
Release samples

03 TB-3_sus-f	**Samples: 56**	**RAM: 3 MB**

Sustained, forte
1 velocity layer
Release samples

04 TB-3_sus-ff	**Samples: 56**	**RAM: 3 MB**

Sustained, fortissimo
1 velocity layer
Release samples

03 Perf Speed variation	**Range: C2–A#4**	

01 TB-3_perf-legato_slow	**Samples: 672**	**RAM: 42 MB**

Interval performances
Legato, slow
2 velocity layers
Release samples

99 RELEASE

This section contains release samples for various patches of the other sections. Please do not try to load them into a Vienna Instruments matrix – you will not be able to hear anything when you try to play them.

<div style="border:1px solid black">

Matrices

</div>

Matrix - LEVEL 1

L1 TB-3 Articulation Combi   Samples: 896   RAM: 56 MB

Single note articulations
Staccato, portato short, sustained, marcato crescendo-diminuendo 4 and 6 sec., fortepiano and sforzato, flutter tonguing normal and crescendo

Matrix switches: Horizontal: Keyswitches, C1–E1   Vertical: Modwheel, 2 zones

	C1	C#1	D1	D#1	E1
V1	staccato	sustained	pfp 4s.	fp	flutter
V2	port. short	marcato	pfp 6s.	sfz	flutter cres.

L1 TB-3 Perf-Legato Speed   Samples: 886   RAM: 55 MB

Interval performances
Legato slow, normal, and fast
Monophonic, Speed controller

Matrix switches: Horizontal: Speed, 3 zones

	H1	H2	H3
legato	slow	normal	fast

L1 TB-3 Perf-Repetitions Combi   Samples: 690   RAM: 43 MB

Repetition performances
Legato slow
Portato slow
Staccato slow

Matrix switches: Vertical: Modwheel, 3 zones

	repetitions
V1	legato slow
V2	portato slow
V3	staccato slow

Matrix - LEVEL 2 A - Advanced

01 TB-3 Perf-Universal   Samples: 1711   RAM: 106 MB

Interval performances
Legato slow, normal, and fast
Marcato normal and fast
Monophonic, Speed controller

Matrix switches: Horizontal: Speed, 3 zones   Vertical: Modwheel, 2 zones

	H1	H2	H3
legato	slow	normal	fast
marcato	normal	normal	fast

02 TB-3 Perf-Trill Speed   **Samples: 1336   RAM: 83 MB**

Multi interval performances
Legato and trills
Monophonic, Speed controller

Matrix switches: Horizontal: Speed, 2 zones

	H1	H2
V1	legato	trills

03 TB-3 Short+Long notes   **Samples: 1288   RAM: 80 MB**

Single notes
Staccato short and medium
Portato short, medium, and long
Sustained normal and marcato

Matrix switches: Horizontal: Keyswitches, C1–F1   Vertical: Modwheel, 2 zones

	C1	C#1	D1	D#1	E1	F1
V1	stac.short	stac.medium	port. short	port.medium	port.long	sustained
V2	%	%	%	%	%	marcato

Matrix - LEVEL 2 B - Standard

11 TB-3 Perf-Legato Speed   **Samples: 886   RAM: 55 MB**

Interval performances
Legato slow, normal, and fast
Monophonic, Speed controller

Matrix switches: Horizontal: Speed, 3 zones

	H1	H2	H3
legato	slow	normal	fast

12 TB-3 Perf-Marcato Speed   **Samples: 881   RAM: 55 MB**

Interval performances^mMarcato normal and fast
Monophonic, Speed controller

Matrix switches: Horizontal: Speed, 2 zones

	H1	H2
marcato	normal	fast

13 TB-3 Short notes   **Samples: 1120   RAM: 70 MB**

Single notes
Staccato short and medium
Portato short, medium, and long

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
V1	stac.short	stac.medium	port.short	port.medium	port.long

14 TB-3 Long notes - All   Samples: 280   RAM: 17 MB

Single notes
Sustained normal and marcato

Matrix switches: Horizontal: Keyswitches, C1–C#1

	C1	C#1
sustained	normal	marcato

15 TB-3 Dynamics - Small   Samples: 420   RAM: 26 MB

Dynamics
Medium crescendo and diminuendo, 2, 3, and 4 sec.
Fortepiano, sforzato, sforzatissimo

Matrix switches: Horizontal: Keyswitches, C1–D1   Vertical: Modwheel, 4 zones

	C1	C#1	D1
dyn.medium	2 sec.	3 sec.	4 sec.
fp	%	%	%
sfz	%	%	%
sffz	%	%	%

16 TB-3 Dynamics - Large   Samples: 756   RAM: 47 MB

Dynamics
Medium and strong crescendo and diminuendo, 2, 3, 4, and 6 sec.
Crescendo-diminuendo, 4, 6, 8, and 10 sec.
Fortepiano, sforzato, sforzatissimo

Matrix switches: Horizontal: Keyswitches, C1–D1   Vertical: Modwheel, 4 zones

	C1	C#1	D1	D#1
dyn.medium	2 sec.	3 sec.	4 sec.	6 sec.
dyn.strong	3 sec.	3 sec.	4 sec.	6 sec.
pfp	4 sec.	6 sec.	8 sec.	10 sec.
fp/sfz/sffz	fp	sfz	sffz	sffz

17 TB-3 Flatter   Samples: 84   RAM: 5 MB

Flutter tonguing
Normal, crescendo, and normal/crescendo with Cell crossfading

Matrix switches: Horizontal: Keyswitches, C1–D1

	C1	C#1	D1
flutter	normal	crescendo	Cell XF

Matrix - LEVEL 2 C - Repetitions

31 TB-3 Perf-Repetitions - Combi   Samples: 1110   RAM: 69 MB

Repetition performances
Slow and fast legato, fast portato, slow and fast staccato

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
V1	legato slow	legato fast	portato fast	staccato slow	staccato fast

32 TB-3 Perf-Repetitions - Speed — Samples: 840   RAM: 52 MB

Repetition performances
Slow and fast legato, fast portato, and slow staccato
Speed controller

Matrix switches: Horizontal: Speed, 4 zones

	H1	H2	H3	H4
V1	legato slow	legato fast	portato fast	staccato slow

33 TB-3 Fast-Repetitions — Samples: 336   RAM: 21 MB

Fast repetitions: Staccato, 140–180 BPM

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
speed/BPM	140	150	160	170	180

34 TB-3 Perf Upbeat Repetitions — Samples: 472   RAM: 29 MB

Repetition performances
1 and 2 upbeats, slow and fast

Matrix switches: Horizontal: Keyswitches, C1–C#1   Vertical: Modwheel, 2 zones

	C1	C#1
1 upbeat	slow	fast
2 upbeats	slow	fast

35 TB-3 Upbeats a1 — Samples: 588   RAM: 36 MB

Repetitions: 1 upbeat, 80–140 BPM

Matrix switches: Horizontal: Keyswitches, C1–F#1

	C1	C#1	D1	D#1	E1	F1	F#1
speed/BPM	80	90	100	110	120	130	140

36 TB-3 Upbeats a2 — Samples: 756   RAM: 47 MB

Repetitions: 2 upbeats, 80–140, 160, and 180 BPM

Matrix switches: Horizontal: Keyswitches, C1–G#1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
speed/BPM	80	90	100	110	120	130	140	160	180

37 TB-3 Upbeats a3 — Samples: 756   RAM: 47 MB

Repetitions: 3 upbeats, 80–140, 160, and 180 BPM

Matrix switches: Horizontal: Keyswitches, C1–G#1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
speed/BPM	90	100	110	120	130	140	160	180	200

38 TB-3 Upbeats all — Samples: 2100   RAM: 131 MB

Repetitions: 1–3 upbeats, 80–140, 160, and 180 BPM

Matrix switches: Horizontal: Keyswitches, C1–G#1   Vertical: Modwheel, 3 zones

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
1 upbeat	80	90	100	110	120	130	130	130	140
2 upbeats	80	90	100	110	120	130	140	160	180
3 upbeats	80	90	100	110	120	130	140	160	180

Matrix - LEVEL 2 D - Scale+Phrase

51 TB-3 Arpeggios-staccato - Major   **Samples: 104   RAM: 6 MB**

Arpeggios, staccato, C to B major
AB switch up/down

Matrix switches: Horizontal: Keyswitches, C1–B1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1	A1	A#1	B1
staccato maj.	C	C#	D	D#	E	F	F#	G	G#	A	A#	B

52 TB-3 Arpeggios-staccato - Major+   **Samples: 104   RAM: 6 MB**

Arpeggios, staccato fast, C to B major
AB switch up/down

Matrix switches: Horizontal: Keyswitches, C1–B1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1	A1	A#1	B1
staccato maj. fast	C	C#	D	D#	E	F	F#	G	G#	A	A#	B

53 TB-3 Arpeggios-staccato - Minor   **Samples: 100   RAM: 6 MB**

Arpeggios, staccato, C to B minor
AB switch up/down

Matrix switches: Horizontal: Keyswitches, C1–B1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1	A1	A#1	B1
staccato min.	C	C#	D	D#	E	F	F#	G	G#	A	A#	B

54 TB-3 Arpeggios-staccato - Minor+   **Samples: 100   RAM: 6 MB**

Arpeggios, staccato fast, C to B minor
AB switch up/down

Matrix switches: Horizontal: Keyswitches, C1–B1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1	A1	A#1	B1
staccato min. fast	C	C#	D	D#	E	F	F#	G	G#	A	A#	B

55 TB-3 Arpeggios-staccato - All   **Samples: 256   RAM: 16 MB**

Arpeggios, staccato, C to B major and minor, diminished
AB switch up/down

Matrix switches: Horizontal: Keyswitches, C1–B1   Vertical: Modwheel, 3 zones

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1	A1	A#1	B1
major	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
minor	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
diminished	%	%	%	%	%	%	%	%	%	%	%	%

56 TB-3 Arpeggios-staccato - All+   **Samples: 256   RAM: 16 MB**

Arpeggios, staccato fast, C to B major and minor, diminished
AB switch up/down

Matrix switches: Horizontal: Keyswitches, C1–B1   Vertical: Modwheel, 3 zones

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1	A1	A#1	B1
major	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
minor	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
diminished	%	%	%	%	%	%	%	%	%	%	%	%

Matrix - LEVEL 2 E - Keyswitch Vel

71 TB-3 Legato slow - cre5   **Samples: 75   RAM: 4 MB**

Slow legato notes: Crescendo, keyswitch velocity
Keyswitches control 5 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
velocity	1st	2nd	3rd	4th	5th

72 TB-3 Legato fast - cre5   **Samples: 75   RAM: 4 MB**

Fast legato notes: Crescendo, keyswitch velocity
Keyswitches control 5 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
velocity	1st	2nd	3rd	4th	5th

73 TB-3 Portato - cre9   **Samples: 135   RAM: 8 MB**

Portato notes: Crescendo, keyswitch velocity
Keyswitches control 9 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–G#1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
velocity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

74 TB-3 Staccato - cre9   **Samples: 135   RAM: 8 MB**

Staccato notes: Crescendo, keyswitch velocity
Keyswitches control 9 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–G#1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
velocity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

75 TB-3 Combi - cre5   **Samples: 150   RAM: 9 MB**

Slow and fast legato: Crescendo, keyswitch velocity
Keyswitches control 5 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–E1   Vertical: Modwheel, 2 zones

	C1	C#1	D1	D#1	E1
legato slow	1st	2nd	3rd	4th	5th
legato fast	1st	%	%	%	%

76 TB-3 Combi - cre9   **Samples: 270   RAM: 16 MB**

Portato and staccato: Crescendo, keyswitch velocity
Keyswitches control 9 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–G#1   Vertical: Modwheel, 2 zones

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
portato	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
staccato	1st	%	%	%	%	%	%	%	%

77 TB-3 Legato slow - dim5   **Samples: 75**   **RAM: 4 MB**

Slow legato notes: Diminuendo, keyswitch velocity
Keyswitches control 5 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
velocity	1st	2nd	3rd	4th	5th

78 TB-3 Legato fast - dim5   **Samples: 75**   **RAM: 4 MB**

Fast legato notes: Diminuendo, keyswitch velocity
Keyswitches control 5 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–E1

	C1	C#1	D1	D#1	E1
velocity	1st	2nd	3rd	4th	5th

79 TB-3 Portato - dim9   **Samples: 135**   **RAM: 8 MB**

Portato notes: Diminuendo, keyswitch velocity
Keyswitches control 9 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–G#1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
velocity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

80 TB-3 Staccato - dim9   **Samples: 135**   **RAM: 8 MB**

Staccato notes: Diminuendo, keyswitch velocity
Keyswitches control 9 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–G#1

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
velocity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

81 TB-3 Combi - dim5   **Samples: 150**   **RAM: 9 MB**

Slow and fast legato: Diminuendo, keyswitch velocity
Keyswitches control 5 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–E1   Vertical: Modwheel, 2 zones

	C1	C#1	D1	D#1	E1
legato slow	1st	2nd	3rd	4th	5th
legato fast	1st	%	%	%	%

82 TB-3 Combi - dim9   **Samples: 270**   **RAM: 16 MB**

Portato and staccato: Diminuendo, keyswitch velocity
Keyswitches control 9 dynamic steps

Matrix switches: Horizontal: Keyswitches, C1–G#1   Vertical: Modwheel, 2 zones

	C1	C#1	D1	D#1	E1	F1	F#1	G1	G#1
portato	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
staccato	1st	%	%	%	%	%	%	%	%

Presets

TB-3 VSL Preset Level 1   **Samples: 2304**   **RAM: 144 MB**

L1 TB-3 Perf-Legato Speed
L1 TB-3 Articulation Combi
L1 TB-3 Perf-Repetitions Combi
Preset keyswitches: C6–D6

TB-3 VSL Preset Level 2   **Samples: 4483**   **RAM: 280 MB**

01 TB-3 Perf-Universal
02 TB-3 Perf-Trill Speed
L1 TB-3 Articulation Combi
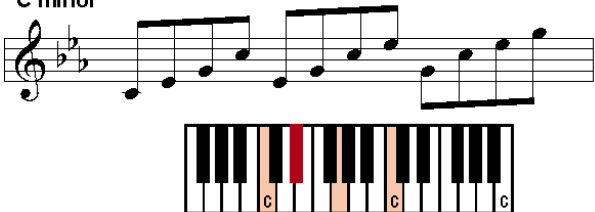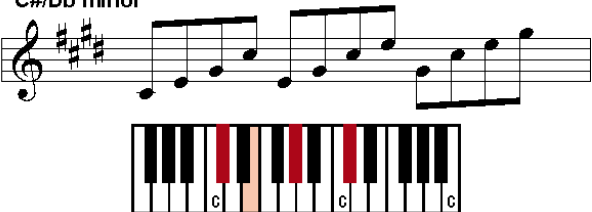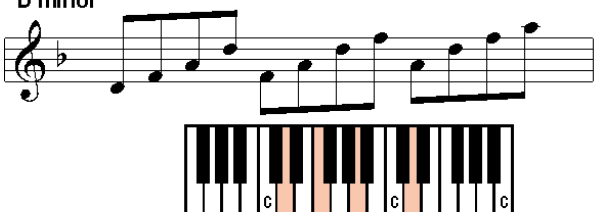31 TB-3 Perf-Repetitions - Combi
76 TB-3 Combi - cre9
Preset keyswitches: C6–E6
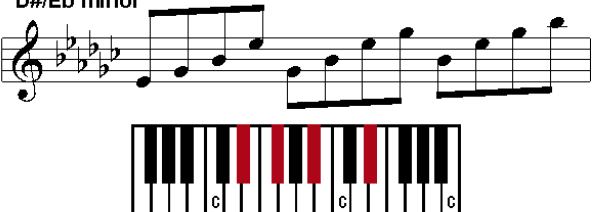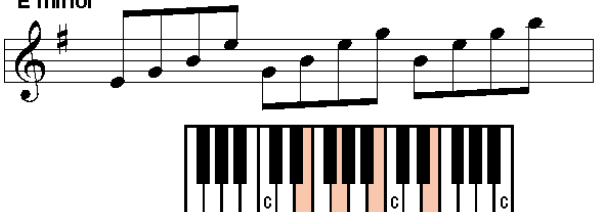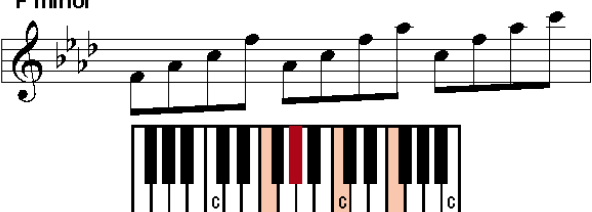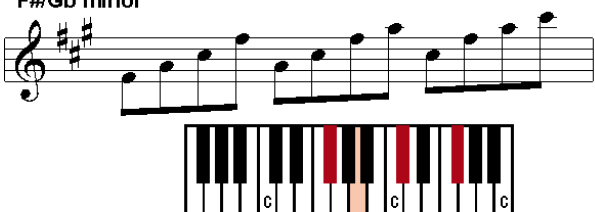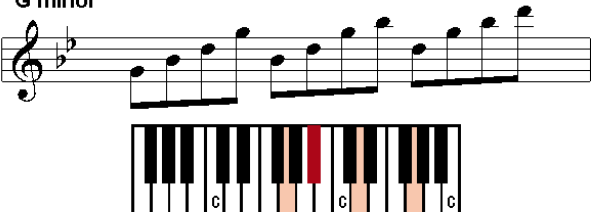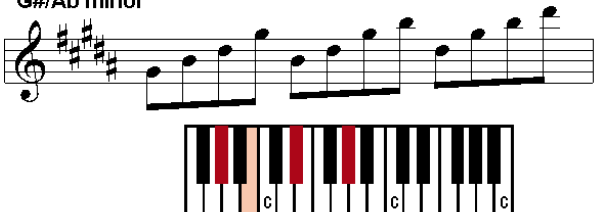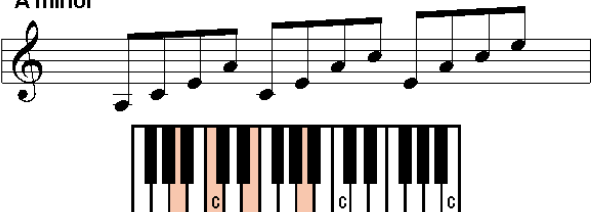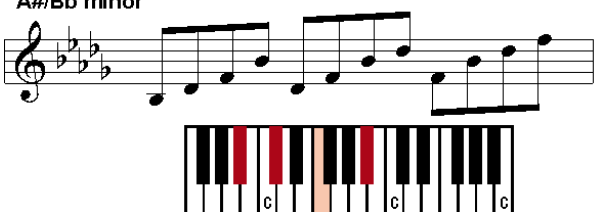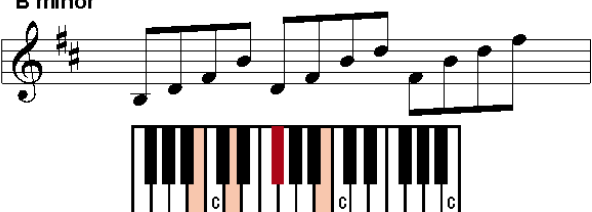
Appendix

In the following, you will find notations and keyboard layout graphics for major and minor arpeggios, as well as a list of playing ranges for the individual arpeggio Patches.

Arpeggios – major

Arpeggios – minor

Arpeggio ranges

Staccato major	play range		Staccato minor	play range
01 TB-3_arp-sta_C-ma	E2–G4		01 TB-3_arp-sta_C-mi	G2–G4
02 TB-3_arp-sta_C#-ma	F2–F4		02 TB-3_arp-sta_C#-mi	G#2–G#4
03 TB-3_arp-sta_D-ma	F#2–F#4		03 TB-3_arp-sta_D-mi	F2–F4
04 TB-3_arp-sta_D#-ma	D#2–G4		04 TB-3_arp-sta_D#-mi	D#2–F#4
05 TB-3_arp-sta_E-ma	E2–G#4		05 TB-3_arp-sta_E-mi	E2–G4
06 TB-3_arp-sta_F-ma	F2–F4		06 TB-3_arp-sta_F-mi	F2–F4
07 TB-3_arp-sta_F#-ma	F#2–F#4		07 TB-3_arp-sta_F#-mi	F#2–F#4
08 TB-3_arp-sta_G-ma	G2–G4		08 TB-3_arp-sta_G-mi	G2–G4
09 TB-3_arp-sta_G#-ma	G#2–G#4		09 TB-3_arp-sta_G#-mi	G#2–G#4
10 TB-3_arp-sta_A-ma	E2–E4		10 TB-3_arp-sta_A-mi	E2–E4
11 TB-3_arp-sta_A#-ma	F2–F4		11 TB-3_arp-sta_A#-mi	F2–F4
12 TB-3_arp-sta_B-ma	D#2–F#4		12 TB-3_arp-sta_B-mi	F#2–F#4

Staccato major fast	play range		Staccato minor fast	play range
01 TB-3_arp-sta+_C-ma	E2–G4		01 TB-3_arp-sta_C-mi+	G2–G4
02 TB-3_arp-sta+_C#-ma	F2–F4		02 TB-3_arp-sta_C#-mi+	G#2–G#4
03 TB-3_arp-sta+_D-ma	F#2–F#4		03 TB-3_arp-sta_D-mi+	F2–F4
04 TB-3_arp-sta+_D#-ma	D#2–G4		04 TB-3_arp-sta_D#-mi+	D#2–F#4
05 TB-3_arp-sta+_E-ma	E2–G#4		05 TB-3_arp-sta_E-mi+	E2–G4
06 TB-3_arp-sta+_F-ma	F2–F4		06 TB-3_arp-sta_F-mi+	F2–F4
07 TB-3_arp-sta+_F#-ma	F#2–F#4		07 TB-3_arp-sta_F#-mi+	F#2–F#4
08 TB-3_arp-sta+_G-ma	G2–G4		08 TB-3_arp-sta_G-mi+	G2–G4
09 TB-3_arp-sta+_G#-ma	G#2–G#4		09 TB-3_arp-sta_G#-mi+	G#2–G#4
10 TB-3_arp-sta+_A-ma	E2–E4		10 TB-3_arp-sta_A-mi+	E2–E4
11 TB-3_arp-sta+_A#-ma	F2–F4		11 TB-3_arp-sta_A#-mi+	F2–F4
12 TB-3_arp-sta+_B-ma	D#2–F#4		12 TB-3_arp-sta_B-mi+	F#2–F#4